**PART 1 - GENERAL**

**1.01 SUMMARY**

A. Provisions of Division 01 apply to this section

* 1. Section includes the following types of play equipment and structures:
  2. Basketball Backboards.
  3. Volleyball Standards.
  4. Tetherball Standards.
  5. Baseball Backstops.
  6. Composite Play Structures.
  7. Other playground equipment as indicated on the Drawings.

B. Related Sections:

* 1. Section 31 22 00: Grading.
  2. Section 31 23 13: Excavating, Backfilling and Compacting.
  3. Section 31 41 00: Storm Drainage Systems.
  4. Section 32 12 16: Asphalt Concrete Paving.
  5. Section 32 17 23: Pavement Markings.
  6. Section 03 30 53: Cast-In-Place Concrete.

**1.02 SECTION DEFINITIONS**

* + - 1. Composite Play Structures: According to ASTM F 1487, composite play structures are defined as “two or more play structures, attached or functionally linked, creating one integral unit with more than one play activity.”
      2. Critical Height: Standard measure of shock attenuation. According to CPSC No. 325, critical height is defined as “the fall height below which a life-threatening head injury would not be expected to occur.”
      3. Fall Height: According to ASTM F 1487, fall height is defined as “the vertical distance between a designated play surface and the protective surfacing beneath it.” The fall height of playground equipment should not exceed the critical height of the protective surfacing beneath it.
      4. IPEMA: International Play Equipment Manufacturers Association.
      5. Play Structure: According to ASTM F 1487, play structure is defined as “a free-standing structure with one or more components and their supporting members.”
      6. Transfer Point: According to ASTM F 1487, transfer point is defined as “a platform or deck along an accessible route of travel or an accessible platform provided to allow a child in a wheelchair to transfer from the chair onto the equipment.”
      7. Use Zone: According to ASTM F 1487, use zone is defined as “the area beneath and immediately adjacent to a play structure that is designated for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment.”

**1.03 SUBMITTALS**

* 1. Coordination Drawings: Layout plans and elevations indicating extent of playground equipment with playground surface systems. Indicate playground equipment locations, use zones, fall heights, extent of protective surfacing, and critical heights.
  2. Product Data: For each type of product specified. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
  3. Installation of composite play structures shall not be started until detailed plans and product data are approved by FUSD.
  4. Certificates: Signed by manufacturers of playground equipment certifying that products furnished comply with DSA and Contract Documents.

**1.04 QUALITY ASSURANCE**

1. Provide playground equipment complying with or exceeding requirements in CPSC No. 325, “Handbook for Public Playground Safety.” Label play structures with warning label and manufacturer’s identification in accordance with ASTM F 1487.
2. Comply with NAAMM’S “Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating metal finishes.
3. Comply with the Architectural and Transportation Barriers Compliance Board Final Rule, ADAAG for Play Areas, effective November/2000.
4. Comply with California Building Code Title 24.
5. CPSI (Certified Playground Safety Inspector) inspection of all composite structures prior to installation of surfacing materials to ensure that all applicable requirements are met.

**1.05 COORDINATION**

A. Coordinate construction of equipment use zones and fall heights during installation of playground equipment with installation of protective surfacing. Sequence the Work so that protective surfacing can be installed immediately after concrete footings have set.

**PART 2 - PRODUCTS**

**2.01 GENERAL**

A. Products: In the locations **indicated on the Drawings**, provide the products specified for each designation in the playground equipment schedule as set forth in sub-section 3.06 of this section.

**2.02 PLAYGROUND EQUIPMENT, GENERAL**

1. Athletic Equipment:
   1. Basketball Backboards:
      1. Manufacturer/Product:
         1. Porter Athletic Equipment Co. / “Outdoor Backstop”, Broadview, IL, telephone (800) 947-6783, as a standard of quality
         2. L.A. Steelcraft
         3. Gametime.
      2. Backstop support shall be designed for mounting goal at any height between 6’-0” and 10’-0”.
      3. Upright support shall be 4-½” O.D. heavy wall, galvanized steel pipe, capped at top end. Anchor pin for lower end of upright shall be provided to anchor pipe in concrete footing.
      4. Backboard shall be supported 4’ in front of upright support by dual horizontal support assemblies. Lower support assembly shall be fabricated from 3-½” O.D. heavy wall, galvanized pipe furnished with a heavy, slotted mounting plate which is located directly behind the four goal mounting holes. Upper support assembly shall be fabricated from 1-7/8” O.D. heavy wall, galvanized pipe fabricated with a plated, structural angle for attachment to the top corners of the backboard. Support assemblies shall be clamped to the upright support by means of heavy, galvanized, ductile iron castings with plated hardware.
      5. Cast Aluminum backboard Porter model #00234-300 or equal: Official size (54” x 39”) and shape. Bank shall be cast in a permanent mold process from high tensile #319 aluminum. Backboard shall be cast with structural reinforcing ribs on backside with a heavy, 1-½” deep perimeter flange to provide maximum rigidity. Backside of bank shall be furnished with eight (8) tapped holes (3/8” –16) to fit normal mounting attachments without exposed bolt heads on front face of unit. Backboard shall be drilled for a front mount type goal (5” x 5” hole pattern) and compatible with direct mount type support structures.
      6. Goals:

1. Goal - Heavy duty Porter model # 00202-000 double rim shall be fabricated from 5/8” diameter cold drawn alloy steel round formed to an 18” inside diameter ring. Inside of ring shall be positioned 6” from face of backboard by heavy, L-shaped, formed steel mounting plate with a 5” x 5” mounting hole centers. Goal shall be rigidly braced by means of a ½” diameter cold drawn alloy steel round formed and welded in position for maximum support. Rim shall be provided with twelve “no-tie” net attachment clips for net attachment. Goal shall be finished in a durable enamel finish. Color of goal to be official orange. Goal shall be furnished complete with a high quality white nylon net and plated mounting hardware.

* 1. Volleyball Standards:
     1. Manufacturer / Product:
        1. Porter.
        2. Gametime.
        3. Or equal
     2. Size: 2-7/8” O.D. x height as required for 7’-0” above finish surface.
     3. Construction: Galvanized steel pipe with eyelets for attachment of rope for volleyball nets. One column of the 2-column set shall be equipped with hand ratchet and stop for net adjustment. Top of pipe to be capped. Provide nets, complete.
  2. Tetherball Standards:
     1. Manufacturer / Product:
        1. Porter Athletic Equipment Co., Schiller, IL, telephone (800) 947-6783, as a standard of quality.
        2. Gametime.
        3. Or equal.
     2. Size: 2-3/8” O.D. x height as required for 8’-6” height above finish surface.
     3. Construction: Galvanized steel pipe with 3/8” solid stack eyebolts 7/8” I.D. hook (galvanized), galvanized steel cap.
     4. Tetherball and Rope: Per official standards.
  3. Baseball Backstop:
     1. Manufacturer / Product:
        1. Gametime.
        2. Or equal.
     2. Size: 13’-0’ high x 20’-6” wide x 81” deep.
     3. Pipe Supports: 2-3/8” O.D., vertical posts and front top, 1-5/8” O.D. horizontal braces, and 1-7/8” O.D. back top. All galvanized steel per ASTM 53, Grade B and ASTM A53M-02.
     4. Fabric: 9 gage galvanized wire fabric, 2” mesh.
  4. Composite Play Structure:

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| --- |
| NOTE TO ARCHITECT: REFER TO DESIGN GUIDE FOR TYPICAL PLAY STRUCTURE LAYOUT FOR KINDERGARTEN PLAYGROUNDS. |

* + 1. Manufacturer / Product:
       1. Miracle Playground Sales, as a standard of quality.

a. Type: Tot’s Choice Playsystem

* + - 1. Gametime.

a. Type: Premier Play System

3) Little Tykes Commercial Play Systems,

a. Type: Kid Builders or Play Builders System

4) Landscape Structures

a. Type: Playshaper Playstructure

5) Playworld Systems

a. Type: Challenger System

6. Other Playground Equipment as indicated on the Drawings.

**2.03 FABRICATION**

1. General: Provide standard sizes, playground equipment and weights of components as indicated.
2. Composite Play Structure:
   1. Provide standard sizes and weights as indicated or required to comply with ASTM F 1487. Factory drill components for field assembly. Provide complete play structure, including supporting members and connections, means of access and egress, designated play surfaces, barriers, guardrails, handrails, handholds, and other components.
   2. Steel and Iron Components: Galvanized, galvanized and color coated, or color coated. Bare metal steel or iron components are not permitted, unless stainless steel.
      1. Color-Coated Pipe and Tubing for Main Frame: Powder coat baked enamel finish.
      2. Color-Coated Pipe and Tubing for Component Frames: PVC-coat or baked-enamel powder-coat applied to steel.

**2.04 CAST-IN-PLACE CONCRETE**

A. Concrete Materials and Properties: Comply with requirements of Section 03 30 53: Site Concrete to provide normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3,000 psi, 4-inch slump, and one inch maximum size aggregate.

* 1. **GENERAL METAL FINISHES**

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are permitted if they are within one-half of the range of reviewed Samples. Noticeable variations in the same piece are not permitted. Variations in appearance of other components are permitted if they are within the range of reviewed Samples and are assembled or installed to minimize contrast.

B. Baked-Enamel Powder-Coat Finish: Manufacturer’s standard, baked, polyester-TGIC, powder-coat finish complying with finish manufacturer’s written recommendations for surface preparation, including pretreatment, application, baking, and minimum dry film thickness of 3 to 5 mils.

C. PVC Finish: Manufacturer’s standard, UV-stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish, with flame retardant added, complying with coating manufacturer’s written recommendations for pretreatment, application, and minimum dry film thickness of 80 mils.

**PART 3 - EXECUTION**

**3.01 EXAMINATION**

A. Examine areas and conditions for compliance with requirements for Project site clearing, earthwork, surface and sub-grade drainage, and other conditions affecting installation.

B. Do not begin installation before final grading for placing protective surfacing is completed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.02 PREPARATION**

A. Verify locations of playground perimeter and pathways. Verify that playground layout and equipment locations comply with requirements for each type and component of equipment.

**3.03 INSTALLATION, GENERAL**

1. General: Comply with manufacturer’s written recommendations, unless more stringent requirements are indicated.
2. Basketball Standards: Excavation shall be a minimum of 4’-0” deep x 3’-0” in diameter. The backstop column support shall be installed, plumbed, and shored with the column positioned in a manner so that a minimum column embedment of 3’-6” occurs. Fill excavation with concrete. A measured height of 10’-0” from top of finish surface to top of ring shall be provided. Maintain shoring in place until concrete is sufficiently hydrated to support backstop column.
3. Volleyball Standard: Provide 2’-6” deep x 1’-6” diameter excavation and install top of posts at 7’-0” above adjacent playing surface. Embed posts 2’-0” into concrete.
4. Tetherball Posts: Provide 1’-6” diameter x 3’-0” deep excavation and install top of posts 8’-6” above adjacent playing surface, embed post 2’-3”, provide 6” minimum concrete under post. Provide concrete backfill sloped to drain.
5. Baseball Backstops: Provide 1’-0” diameter x 3’-6” deep concrete footing. Pipe supports shall be embedded in concrete footing to a minimum depth of 36”, provide a minimum of 6” concrete under pipe.
6. Composite Play Structure: Anchor playground equipment securely, installed at locations and elevations indicated.

1. Maximum Equipment Height: Coordinate installed heights of equipment and components with installation of protective surfacing. Install equipment so fall heights and elevation requirements for age group use and accessibility are within required limits. Verify that playground equipment elevations comply with requirements for each type and component of equipment.

2. Installation must be inspected and approved by certified playground safety inspector (CPSI) prior to installation of protective surfacing.

G. Install other playground equipment as indicated on the Drawings.

1. Post and Footings:
   1. Excavation: Hand-excavate holes for posts and footings to dimensions, profile, spacing, and in locations indicated on Drawings, in firm, undisturbed or compacted subgrade soil. Level bearing surfaces with drainage fill, to required elevation.

2. Post Setting: Install mainframe equipment posts in concrete footing. Protect portion of posts above footing from concrete splatter. Install concrete around posts and vibrate or tamp for consolidation. Verify that posts are set plumb or at the correct angle and are aligned and at the correct height and spacing. Brace posts in position during placement and finishing operations until concrete is sufficiently hydrated. Smooth tops of concrete footings, and slope top surface for positive shedding of water.

**3.04 ADJUSTING AND PROTECTION**

1. Adjust movable playground equipment components to operate smoothly, easily and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range.

B. Protect the Work of this section until Substantial Completion.

**3.05 CLEANING AND CLEANUP**

1. After completing playground equipment installation, inspect components. Remove spots and dirt. Repair damaged finishes to match original finish or replace component.
2. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

**END OF SECTION**